

### ABSTRACT

A silica glass jig for semiconductor industry, which is does not contaminate semiconductor elements, and generates less cracks and a production method thereof are provided.

A silica glass jig for semiconductor industry, characterized by having, on the surface of the jig, pyramidal projected structures with their cut-off apices and concave portions provided therebetween, and small projections are uniformly distributed thereon; the silica glass jig has a surface with many dimple-form concave portions each having a width of from 20 to 300  $\mu\text{m}$  exist and there are grooves each having a width of from 0.5 to 50  $\mu\text{m}$  at an interval of from 20 to 300  $\mu\text{m}$ , and small projections each having a width of from 1 to 50  $\mu\text{m}$  and having a height of from 0.1 to 10  $\mu\text{m}$  are uniformly distributed between the grooves and in the grooves. A method for producing such is machining the surface of the silica glass jig to form irregularities, and then treating the resulting surface with a treating solution containing hydrogen fluoride and ammonium fluoride; or immersing the silica glass jig in a first processing solution containing hydrogen fluoride, ammonium fluoride, and an organic acid, and then immersing it at least once in a second processing solution, wherein the content of the organic acid is higher than that of the first processing solution.

[Selective Drawing] None